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Theodore Gottlieb

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

SERIAL NO.	: 09/641,014
APPELLANTS	: Wenninger, et al.
FILED	: August 17, 2000
EXAMINER	: T. Ribar
ART UNIT	: 1711
FOR	: Adhesive packaging tape with natural-rubber hot-melt pressure sensitive adhesive

Commissioner of Patents
PO BOX 1450
Alexandria, VA 22313-1450

August 18, 2003

REPLY BRIEF PURSUANT TO 37 CFR § 1.193(b)(1)

EXAMINER'S MODE OF ANALYSIS

Examiner's mode of analysis seems directed toward using the claims as a guide for creating an inaccurate view of the prior art to support affirming the appealed rejections. The analysis submitted in Examiner's Answer often ignores the "wholeness" of both the claimed adhesive tapes as well as the inventions disclosed in the reference. The impression Examiner gives is that he believes that any adhesive tape is an equivalent with another tape, and therefore, its components are freely interchangeable.

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Appellants respectfully suggest that proper consideration of the teachings of the disclosures, the different uses of the tapes, and the objective evidence of the adhesive components' distinct properties, would lead to a finding of nonobviousness over the references.

An example of the Examiner's flawed analysis is found in his response to Appellants' statement that Examiner had not properly considered the invention as a whole, as required by PTO guidelines and countless Federal Circuit opinions.¹ MPEP 2142.02. Examiner first responds by misinterpreting Appellants' position by framing it as "the applicant argues that the invention as a whole is not disclosed" by the references." Examiner then attempts to rebut the argument by disagreeing "because all of the claim limitations are found in the references." See Answer, page 9.

In other words, Examiner apparently believes that if the references merely disclose or refer to all of the claim elements, a *prima facie* case of obviousness has been met. However this meets only one of at least three basic criteria for supporting *prima facie* obviousness. Without showing a motivation to combine the references, and a reasonable expectation of success, the burden of *prima facie* obviousness has not been met. MPEP § 2143.²

Respectfully, Examiner has not met this burden in this case. Examiner has not explained or soundly reasoned why his proposed modification of Yamamoto in view of Yarusso is either (1) suggested by the references in view of contrary teachings, and (2) why there would be a reasonable expectation of success in arriving at the claims.

Examiner has all but ignored numerous express statements by Yarusso indicating that his disclosed rubber-based pressure-sensitive adhesive ("PSA") compositions should not be heated. Examiner responds that this is essentially irrelevant, because (1) "applicant does not claim an adhesive that is thermally crosslinked; and if Appellants had done so, (2) they "would face product-by-process issues if they did."³

With respect to the first point, the claims are directed to a complete product, i.e., an adhesive tape. The completed tape comprises a crosslinked PSA – there is not a single reference

¹ See Appeal Brief, page 10.

² "To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference [or references when combined] must teach or suggest all the claim limitations."

³ Examiner's hypothetical rejection of a non-existent product-by-process claim is not relevant to the instant appeal.

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in the specification supporting an interpretation that the claimed tape is merely coated with a PSA composition that is merely crosslinkable. Persons of ordinary skill in the art would not read the claim as merely including an unactivated thermally-labile crosslinker system.

Further, the adhesive formulation of claim 1 specifies the wt.-% of a crosslinker system in element 1(e). Therefore, the crosslinker system must include a thermally labile crosslinker for it to be consistent with the preceding claim recitation. Persons of ordinary skill in the art would not have any problem understanding the nature of the invention.

Further, appealed claim 1 is not a process claim, but a composition claim. If Examiner is suggesting that either functional limitations or method steps were required to specify the crosslinked nature of the PSA, Appellants strongly disagree as would those in the art.

For example, Yamamoto claims "[a]n UV curing pressure sensitive adhesive..." Yamamoto, claim 1. This claim does not state "an UV cured" PSA. Yet, it is doubtful that persons in the art, including the Examiner, would conclude that Yamamoto actually envisioned a non-cured PSA.

Yarusso claims a method, thus an analogous comparison of claim language is not proper.

On what reasonable basis can Examiner conclude that claim is not directed to a thermally crosslinked PSA? There is no methodology or even a single inventive embodiment disclosed that was not thermally crosslinked (except for the comparative compositions discussed in §3, below).

Respectfully, Examiner's improper interpretation of claim 1 is an attempt to sidestep Yarusso's contrary teaching (see below) about avoiding heat.

Examiner also states that Yarusso's contrary teachings are irrelevant because the appealed was based on the embodiment in Yarusso's Ex. 7. Examiner alleges that this composition does not include an oriented polymer. Col. 17, lines 18-45. Therefore, because Yarusso discloses this allegedly non-oriented composition of Ex. 7, Examiner concludes that "the teaching within the reference that thermal crosslinking could destroy the adhesive's orientation is not relevant." Answer, page 9. (Emphasis added).

In response Appellants point out:

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- Nowhere does Yarusso indicate that Example 7 is non-oriented.
- In fact, immediately following Table 3, Yarusso explicitly states that Ex. 7 and 8 possessed the anisotropic properties required - i.e., Example 7 was indeed crystalline/oriented.

In fairness to Examiner, the text surrounding Ex. 7 discloses that the PSA temperature had reached 100 °C during processing, and therefore was heated above its melting temperature. Examiner likely believed this to be evidence of loss of anisotropic properties. However, this heating occurred during the kneading phase. The oriented/crystalline PSA structure requires subsequent cooling to form the crystalline/oriented PSA. Yarusso states that obtaining a crystalline oriented form requires cooling the PSA below the melting temperature. See col. 3, line 57-60.

However, in fairness to Appellants, it may also be suggested that Examiner has not carefully reviewed Yarusso's disclosure, or perhaps did not fully understand it.

In any event, Examiner has not accurately described Yarusso's teachings or his data. Accordingly, he cannot have adequately and properly addressed Appellants' position that Yarusso teaches away from the appealed claims. See Ex. 5 and Table 2 and the related text, for further evidence of Yarusso's emphasis on avoiding heating his anisotropic PSAs.

With respect to Yamamoto's teachings, Examiner makes statements that are confusing as well as unsupported. Near the bottom of the Answer, page 8, Examiner states that "*a composition may be thermally-crosslinkable even if it is not crosslinked using heat.*" This argument stems from Examiner's belief that Appellants' claim 1 does not require that the PSA be thermally crosslinked. Further, Examiner alleges that Yamamoto's PSA may, inherently have been crosslinked thermally. Therefore, according to Examiner, Yamamoto meets the claims' requirement of being thermally-crosslinkable, as opposed to crosslinked.

Examiner asserts "that this therefore meets the 'thermally-crosslinkable' limitation of the claims." However, Appellants point out that there is no express or implied "thermally-crosslinkable" limitation. The crosslinker may, indeed, be thermally activated; and the unprocessed PSA formulation may, indeed be crosslinkable. However, the claimed invention is an adhesive tape comprising a thermally-crosslinked PSA and not an adhesive tape having an unprocessed PSA that merely comprises a thermally labile crosslinker.

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Examiner's characterization of appealed claim 1 as only requiring that the PSA be crosslinkable runs counter to the rules of claim construction. The MPEP explicitly states that "claims must be given their broadest reasonable interpretation consistent with the specification." MPEP § 2111 (Emphasis added). In addition every claim limitation must be considered.

In the present case, claim 1 recites a "solventlessly prepared pressure-sensitive adhesive." The specification (pp. 20-21) describes the solventless process as comprising adding the thermally labile crosslinker during the compounding phase of the solventless process. The rollers of the planetary roll extruder are temperature controlled so that the adhesive composition achieves a temperature no higher than 150 °C. The achieved temperature range is sufficient for the thermally labile crosslinker to be activated.

Thus, the claim explicitly recites the process used to prepare the PSA. Further, this process explicitly indicates that conditions are met for providing a *de facto* crosslinked PSA. Thus, Examiner's reading of claim 1 does not take into account the nature of the process recited.

Appellants respectfully suggest that in view of claim 1's explicit requirement of the solventless process described in the specification, it would be very clear to persons in the art that the claimed adhesive tape comprised a crosslinked PSA.

Appellants note the longstanding practice that claims must be given their broadest reasonable interpretation consistent with the specification. MPEP § 2111. It would be highly unreasonable to conclude that the claimed adhesive comprising thermally crosslinked PSA is beyond the scope of reasonable interpretations.

Examiner's apparent position is that the broadest interpretation of claim 1 would not encompass an adhesive tape comprising a thermally-crosslinked PSA. This is not a reasonable interpretation in view of the specification. There are no examples of desired embodiments of the claimed tape wherein the PSA is not thermally crosslinked.

There is no disclosure even suggesting that not thermally crosslinking the tape would yield a desirable product.

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In conclusion, Examiner's interpretation that the PSA of claim 1 is merely crosslinkable, and not crosslinked, is both technologically unsound, and contrary to MPEP examining guidelines.

Accordingly, a *prima facie* case of obviousness is not been met and the rejections should be reversed.

THE BOARD'S DECISION

A. The Yamamoto Reference

To begin, Appellants will briefly describe the Yamamoto reference. It is respectfully brought to the Board's attention that these remarks should not be viewed as arguing against the Yamamoto reference individually.⁴ However, an examination of Yamamoto clearly indicates why there is insufficient motivation or suggestion to combine Yamamoto with Yarusso.

According to Examiner, Yamamoto claims a pressure-sensitive adhesive ("PSA") having a crosslinking system based on isocyanates. Answer, p. 3.

In contrast to Examiner's characterization regarding the compositions claimed by Yamamoto et al., it is respectfully brought to the Board's attention that not one of Yamamoto's claims describes a PSA comprising any specific crosslinking system at all, let alone one based on isocyanates. Each and every one of Yamamoto's claims is entirely based on a UV-curing PSA.⁵

The intent to obscure the differences between the claimed tape and Yamamoto is further substantiated by noting that Examiner asserts that Yamamoto uses a crosslinking system that is "based on isocyanates," but fails to mention that the composition also comprises a hexaacrylate compound as a UV crosslinking promoter and a UV inducible photoinitiator. See bottom col. 7, to top col. 8 in Yamamoto. Although Yamamoto apparently thermally crosslinks the tape as a preparatory step for storage, the resulting PSA is not the operable article – i.e., UV-curing is subsequently employed prior to actually using the tape so as to diminish the adhesive properties of Yamamoto's tapes.

⁴ In comparison with claim 1, Yamamoto does not teach or suggest the desirability of PSAs comprising, (1) rubber-based elastomers, or (2) PSAs that are hot-melt adhesives, and (3) solventless preparation of the PSA. It is known in the art that hot-melt adhesives are prepared by solventless technology, and essentially form solid layers of adhesive upon cooling. Yarusso only suggests rubber-based elastomers that are not crosslinked.

⁵ In the Answer, Examiner asserts that Appellants argued that Yamamoto is nonanalogous art. This mischaracterizes Appellants' position. Appellants have properly argued that adhesive tapes of the appealed claims and the applied reference have been distinctly conceived and engineered to perform vastly different functions. As would be expected, the tapes would thus possess different properties. Such an argument should not be viewed as asserting that a reference is nonanalogous art.

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Examiner further asserts that Appellants are attempting to limit Yamamoto's disclosure to a preferred embodiment. This statement is incorrect and leads the reader to incorrectly conclude that Yamamoto had actually disclosed an embodiment of his tape in which the PSA is only thermally crosslinked. This is not the case, as all of his PSAs are UV crosslinked.

In sum, Yamamoto clearly discloses that the PSA must be UV-cured to exhibit the tape's desired properties. This is not the case for thermal crosslinking.

B. The Yarusso Reference

Yarusso discloses partially crystalline and/or oriented PSAs comprising natural rubber elastomers. The general method of preparing these PSAs are found in col. 3, lines 46-61. Of note is that this method does not disclose any crosslinking step let alone a thermal one.

Neither is there any exemplified embodiment that had been crosslinked by any method, let alone thermally.

Yet in the Answer, Examiner states that that both Yamamoto et al., and Yarusso et al., teach that adhesives may be thermally crosslinkable. Answer, p. 9. However, an in depth review of Yarusso indicates that Yarusso is directed toward non-crosslinked PSAs.

A search for the term "crosslink" in Yarusso provided only three hits. They are summarized as follows:

- Col. 1, lines 50-61. Yarusso merely references a piece of art that "Includes a crystallizable polymer that may be crosslinked."
- Col. 4, lines 25-32. Yarusso Indicates that in some paint spraying procedures, it may be desirable to have a tape with a crosslinked PSA. However, "crosslinking processes which involve heating may be detrimental to preserving the orientation and crystallinity in the PSA."

These are Yarusso's only references to crosslinking.

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Appellants suggest that the foregoing evidence indicates that Yarusso (a) does not disclose that his PSAs should be crosslinked, and (b) clearly cautions that thermal crosslinking, and other processes at elevated temperatures, should be avoided. Therefore, it is submitted that persons of ordinary skill would reasonably interpret this as teaching away from crosslinking in general, and thermal crosslinking in particular.

In contrast, Examiner goes so far as to interpret Yarusso as affirmatively teaching the desirability of thermally crosslinking adhesives. Answer, page 9. Apparently, even if thermal crosslinking renders Yarusso's PSA unsuitable for its intended use, Examiner believes this a bona fide suggestion of thermal crosslinking's desirability. Appellants disagree based on the above comments and the following remarks.

- In the paragraph bridging col. 5 and 6, Yarusso discloses that the overall process in Fig. 1 may include a crosslinking station "where the PSA layer is exposed to radiation." It is then reiterated that "Radiation provides crosslinking...." There is no indication that thermal crosslinking is desirable.⁶ This is relevant because, as shown by Yamamoto and the Appellants' specification, irradiation by UV decreases a PSA's bonding strength. Thus, even in Figure 1, Yarusso is suggesting a method of preparing tapes with low bonding strength and having anisotropic properties. As described in § 3, below, these adhesive tapes would have different properties from Appellants' claimed tapes.

Additional cites indicate that heating could detrimentally affect the anisotropic properties of the disclosed compositions. Col. 8, lines 36-39.

Therefore, in maintaining the rejection, the Examiner apparently believes that persons of ordinary skill in the art:

- Would ignore the fact that Yarusso does not actually crosslink any of his rubber-based PSAs, and at most alludes to an embodiment where a radiation crosslinking station may be integrated into his method;
- Would further ignore Yarusso's explicit and specific caution against thermal processes in general, and thermal crosslinking specifically; and

⁶ It appears that Examiner focuses on whether a PSA may be thermally crosslinkable, when the actual issue is whether the reference suggests the desirability of thermally crosslinking the disclosed PSA.

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- Would ignore Yamamoto's evidence (discussed below) that UV-crosslinking diminishes the adhesive strength of his PSAs;

Affirming the rejection further requires that persons of ordinary skill in the art, being aware of the foregoing disclosures, would reasonably be expected to,

- substitute Yarusso's rubber-based PSAs for Yamamoto's intended weak adhesive PSA-containing tape, that is not based on rubber,⁷
- and not only conclude that it would be desirable to crosslink Yarusso's uncrosslinked PSA,
- but to crosslink the PSA by a method that Yarusso specifically cautions against, and that neither reference exemplified,
- and would have reasonably predicted obtaining the composition of the appealed claims and its previously undisclosed superior properties.

Based on the Yamamoto and Yarusso references, it is respectfully suggested that such reasoning would not be followed by persons of skill in the art. Following such references would almost certainly not have resulted in following the Appellants' research path. Thus, the combination of the applied references is not adequate to maintain the rejections.

Appellants respectfully suggest that reversing the rejections would be proper on this basis alone.

[REDACTED]

To establish that Examiner has not met the requirements for a *prima facie* case of obviousness under § 103, Appellants may introduce objective evidence that the claimed invention yields improved properties or properties not present in the prior art. This evidence may consist of a showing that the claimed compound possesses unexpected properties. *In re Dillon*, 16 USPQ2d 1987, 1901. See generally, MPEP § 2144.08.

⁷ See principal Appeal Brief, § 4.

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Further, a showing of unexpected results must be based on evidence, not argument or speculation. *In re Mayne*, 41 USPQ2d 1451, 1455-56 (Fed. Cir. 1997).

Appellants present objective results in the specification demonstrating that the thermally crosslinked compositions provide superior bond strength over UV-cured compositions of otherwise identically composed formulations.

Appellants respectfully direct the Board's attention to pages 28 to 29 of the specification to note the recipes for Appellants' three test natural rubber-based formulations:

- A is the thermally crosslinked PSA;
- B is not crosslinked – the same as composition A, but without the diisocyanate.
- C is UV-crosslinked – the same as composition B, but includes a UV-crosslinking promoter (Ebecryl 140) and a photoinitiator (Irgacure 651) and exposed to UV.

Formulation A generally provides a PSA with more desirable properties when compared with UV crosslinked Formulation C, and the non-crosslinked Formulation B. Specifically, A's bond strength is over 50% greater than that of the UV-cured Formulation C. With respect to shear strength, both formulations A and C were far superior to uncrosslinked B; A and C were approximately the same, unless the curing irradiation was not direct but through the backing material (column marked Formulation C, "reverse.")

An interesting point may be made by comparing Formulation B with C; namely that in comparing the effects of thermal crosslinking and UV crosslinking of the identical composition, UV curing seems to substantially decrease bond strength, while thermal crosslinking retains bond strength. Therefore, in conceiving adhesive packaging and strapping tapes that can resist tension across packaging of various types, UV-curing seemed to provide a substantially less desirable alternative.

As indicated in the principal Appeal Brief (p. 11, § 4), Yamamoto demonstrated the same trend. UV-curing resulted in a 98% decrease in adhesive force. When compared directly,

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Appellants' PSA is approximately 100 times stronger than Yamamoto's UV-cured PSA.⁸ This indisputably indicates that UV-curing of a PSA greatly alters its properties, and therefore renders this method of crosslinking unsuitable for packaging and strapping of shipped materials.

Therefore, Appellants' objective data extends that of Yamamoto, because although both show that UV-curing diminishes bond strength, only Appellants demonstrate that thermal crosslinking provides the benefits of a crosslinked PSA while avoiding the loss of adhesion strength caused by UV-curing of PSAs.

It is also noted that Yamamoto does not teach or suggest the desirability of omitting the UV-curing step in order to maintain strong adhesion. Further, although Yamamoto's tapes lose bond strength upon UV-curing, there is no explicit or implied suggestion of the desirability to employ the uncured tape for any particular purpose.

The functional distinctions between Yamamoto's PSA and that of Appellants' support the conclusion that they are structurally and compositionally distinct. For example, UV crosslinking of Appellants' uncrosslinked composition (comp. B) resulted in a decrease of about 42% in bond strength. However, UV crosslinking of Yamamoto's PSA resulted in a decrease of 98%.

Appellants respectfully suggest that the claimed tape's enhanced resistance to UV-curing is based, *inter alia*, on the fact that the Appellants' composition is based on natural rubber-based elastomers, not polyacrylates. Further, Appellants' solventless technology yields higher molecular weight polymers when compared to conventional compounding procedures, which also contributes to the PSA's superior properties. Thus, the objective evidence supports the conclusion that an adhesive tape based on natural rubbers may possess distinct and superior properties to Yamamoto's polyacrylates.

Yamamoto's deficiencies are not remedied by combining Yamamoto with Yarusso since Yarusso does not teach or suggest any crosslinking of rubber based elastomers, or solventless technology.

⁸ In the Appeal Brief, the conversion of Yamamoto's bond strengths from "g/25mm" to "N/cm" was off by a decimal place. Thus, the bond strength of Appellants tape (p. 35 of specification) is 100 times more than Yamamoto's, and not 10 times as previously indicated. See Appeal Brief, pages 11-12. Appellants' representative regrets the error, and further avers that the original calculation was believed, in good faith, to be correct when submitted. For convenience, an example of the calculation of Yamamoto's cured tape is as follows:
 $8 \text{ g/25mm} = 3.2 \text{ g/cm}; 3.2 \times .0098 \text{ N/g} = .03136 \text{ N/cm}.$

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It is noteworthy to ask why Yamamoto conceived a PSA with such a low adhesion force. It is because the tapes prepared by Yamamoto are designed for handling and transporting delicate semiconductor wafers during their processing; e.g., grinding and dicing, etc. See Yamamoto, col. 1, lines 37-52. Accordingly, Yamamoto states that it is desirable for the semiconductor wafer to adhere to the chip until the end of the grinding step, but to NOT adhere to the adhesive sheet before the dicing step. Lines 43-46; 50-51. Thus, UV-curing provides a "window" of adhesion strength to pick up and/or release the exceedingly lightweight and delicate wafers during specific steps of its processing.

In sum, Appellants provide a thermally crosslinked PSA that demonstrates an adhesive strength after crosslinking that is about 100 times as strong as that of Yamamoto's UV-cured PSAs.⁹ Persons of ordinary skill in the art could not have foreseen or predicted this difference based on the combined disclosures of Yamamoto and Yarusso.

Examiner has not considered the objective evidence because "such properties are nowhere in the claims and cannot be relied upon to further limit the claims as they currently stand." Answer, page 10, 1st paragraph. This is not a proper basis to ignore the objective data.

The unexpected superior properties *per se*, need not be recited in the claim as long as the claim elements responsible for these properties are indicated. It is explicitly set out in the MPEP that examiners must consider "those properties of the subject matter which are inherent in the subject matter and are disclosed in the specification...." MPEP § 2141.02.

In addition, the MPEP explicitly states that the superiority of a property shared with the prior art is evidence of nonobviousness. MPEP § 716.02

In accordance with long-established guidelines, it is respectfully suggested that the foregoing demonstration of Appellants' PSAs' unexpectedly superior properties are clearly sufficient to rebut Examiner's alleged *prima facie* case of obviousness.

Reversal of the rejections under § 103(a) is respectfully requested.

⁹ See page 12 of the principal Appeal Brief for the calculations, and conversion factors used.

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~~THE COMBINATION OF YAMAMOTO AND YARUSSO DOES NOT TEACH OR SUGGEST EACH CLAIM ELEMENT~~

A. The Combined References do not Teach or Suggest Each Claim Element

To affirm the appealed rejections, the Board must find that the combination of Yamamoto and Yarusso teaches or suggests each claim limitation. MPEP § 2142.

In this regard, Appellants respectfully suggest that the remarks in §§1-3 have adequately established that the combination of Yamamoto and Yarusso do not teach or suggest the desirability of (a) a thermally crosslinked PSA composition, (b) based on natural rubber, and (c) prepared by solventless technology.

Accordingly, the rejections may properly be reversed on this basis.

B. There Is Insufficient Motivation and/or Suggestion in the References to Arrive at the Claimed Subject Matter

Examiner states that the motivation to combine Yamamoto and Yarusso is due to fact that "the substitution of one adhesive for another in a tape structure contains the inherent motivation of wanting to utilize the properties of the newly substituted adhesive in place of the original adhesive and to create an adhesive tape known to be useful." Answer, page 10.

Appellants suggest that this generic explanation for making a substitution is not adequate to affirm the rejection as it does not specifically respond to Appellants' arguments. In fact, the statement is essentially nonresponsive in that Appellants' position is not that there could never be a proper motivation to substitute one adhesive tapes's PSA for another.

Some of the key questions that Appellants pose are:

- How can the alleged motivation to combine Yarusso with Yamamoto be unaffected by Yarusso's teaching against thermal crosslinking?
- Where, in Examiner's rationale, is there a reasonable explanation for the motivation to substitute UV-cured polyacrylate PSAs by uncrosslinked rubber-based PSAs?

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- What is Examiner's rationale by which he believes that persons in the art would be motivated to thermally crosslink the substituted PSA, rather than e.g., leave it uncured as Yarusso does, or UV-cure it as Yamamoto does? There is no teaching or suggestion to provide a tape having only a thermally crosslinked PSA.
- How can the motivation to introduce Yarusso's uncrosslinked rubber-based PSA into Yamamoto's tape, AND crosslink it, be unaffected by Yamamoto's teaching that crosslinking decreases adhesive strength?

Respectfully, Examiner's rationale for a motivation does not adequately address these critical issues. Therefore, Appellant's conclude that the demonstration that Yarusso and Yamamoto teach away from the claims and Examiner's proposed modifications, is a valid basis to reverse the rejections.

C. Examiner's Proposed Modification of Yamamoto and Yarusso Renders Each Unsuitable for Their Originally Intended Purpose

In general, Examiner's mode of analysis has been to use the claims to manufacture a rejection based on an inaccurate view of the prior art. As mentioned earlier, Examiner alleges that all of the claim elements have been disclosed. However, even if this interpretation is correct this is not sufficient to maintain the rejections.

The mere fact that references can be combined or modified does not render the claims obvious unless the prior art also suggests the desirability of the combination. MPEP § 2143.01. Additional evidence for the lack of motivation to combine the references is revealed by considering that the Examiner's proposed modifications would render either of Yamamoto's PSA and Yarusso's PSA, unsuitable for their originally intended purpose.

The Federal Circuit has held that if a proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. MPEP § 2143.01, (citing *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984)) (Emphasis added).

Yamamoto's PSAs possesses about 1% of the adhesive strength of the Appellants' PSA. As described above in § 3, those PSAs are used in tapes designed for the convenient and nondestructive transport of delicate semiconductors. Yamamoto explicitly indicates that there is a

Examiner's proposed
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window of adhesive strength that is desirable. Col. 1, lines 37-52. However, Examiner's proposed modification would result in an adhesive tape having a PSA with about 100 times the adhesive strength of Yamamoto's UV-cured PSAs. This would effectively provide a tape with an adhesive strength far outside of Yamamoto's intended window, thereby rendering Yamamoto's tape unsuitable for its original purpose.

As discussed previously, thermally crosslinking Yarusso's PSA according to Appellants' method would indisputably result in converting it from an anisotropic composition to isotropic, and a loss of anisotropic peel properties. Col. 17, lines 11-15. Thus, Yarusso cannot reasonably be combined with any reference to yield a tape with a thermally crosslinked PSA.

In brief, Appellants' claimed adhesive tape would be unsuitable for either of Yamamoto's or Yarusso's originally intended purposes. Thus, assuming the claim elements were disclosed, their combination would clearly violate the PTO's guidelines governing the propriety of combining references. MPEP § 2143.01

Accordingly, the rejections should be reversed in view of the improper attempt to combine the disclosures of Yamamoto and Yarusso.

Conclusion

The foregoing analyses indicate that it is more likely than not, that persons in the art would not have been motivated to combine Yamamoto and Yarusso, and have a reasonable expectation of obtaining an adhesive with the superior properties of the claimed subject matter.

In addition, the extent of the claimed composition's superiority coupled with the fact that Yamamoto and Yarusso's teachings did not render these properties foreseeable is strong evidence of the claimed composition's non-obviousness.

Further, the effects of the proposed modifications of the references on Yamamoto's and Yarusso's tapes must be considered. It is demonstrated that such modifications would render the


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cited art inventions unsuitable for their intended purposes. This is strong evidence of a lack of motivation to combine references.

Appellants respectfully request that the rejections under § 103 be reversed in view of the objective evidence of superior properties, and contrary teachings that lead the references away from each other as well as the claims.

Respectfully Submitted,

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